

**Claims**

1. Fibre guide channel for the pneumatic transport of individual fibres, which are combed out of a feed fibre band by an opening cylinder that rotates in an opening cylinder housing, of an open end spinning device, to a spinning rotor running at high speed in a rotor housing that can be subjected to a vacuum, wherein on the input side, the fibre guide channel arranged in a cover element for closing the rotor housing is matched with respect to its width to the mountings of the opening cylinder, the inlet opening and the outlet opening of the fibre guide channel have a slot-like shape and the maximum extension (B) of the inlet opening extends parallel to the rotational axis of the opening cylinder, characterised in that the maximum extension (L) of the outlet opening (26) of the fibre guide channel (11) is rotated about an imaginary centre line (28) of the fibre guide channel (11) by  $90^{\circ} \pm 15^{\circ}$  in relation to the maximum extension (B) of the inlet opening (25), in that the fibre guide channel (11), between the inlet opening (25) and outlet opening (26), has a zone Z, which is substantially cylindrical, in that the cross-section of the fibre guide channel (11) constantly decreases from the inlet opening (25) to the zone Z.

2. Fibre guide channel according to claim 1, characterised in that the channel cross-section within the zone Z is at least approximately circular.

3. Fibre guide channel according to claim 1 or 2, characterised in that the fibre channel (11) is curved in its last third with its flat portion forming there in the direction of the direction of rotation of the rotor.

4. Fibre guide channel according to claim 3, characterised in that the wall region (34) located inwardly in relation to the direction of curvature is more strongly curved than the opposing wall region (35).

5. Fibre guide channel according to claim 3 or 4, characterised in that the cross-sectional area is selected over the entire channel length, regardless of the respective cross-sectional shape, to be at least so large that an air throughput, which is sufficiently large for the spinning process, is ensured.

6. Fibre guide channel according to any one of claims 1 to 5, characterised in that the fibre guide channel (11) is configured in two parts, and consists of a channel portion (11A), arranged in a connection body (29), with the inlet opening (25) and an outlet opening (32) and a channel portion (11B), arranged in a channel plate adapter (18), with the outlet opening (26) and an inlet opening (31).

7. Fibre guide channel according to any one of claims 1 to 6, characterised in that the wall region (37), adjacent to the spinning rotor opening (38) in the region of the outlet opening (26) is arranged such that a fibre free ring (39) of  $\geq 0.5$  mm is produced in the direction of the spinning rotor opening (38) during the spinning process on the fibre slide face (36) of the spinning rotor (3).

8. Fibre guide channel according to any one of claims 1 to 7, characterised in that the height (H) of the outlet opening

(26) of the fibre guide channel (11) is between 1.5 mm and 4.5 mm.